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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference W0277WO	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/EP2004/007574	International filing date (day/month/year) 09.07.2004	Priority date (day/month/year) 15.07.2003
International Patent Classification (IPC) or national classification and IPC B32B15/08, B65D41/04		
Applicant CROWN PACKAGING TECHNOLOGY INC et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 21.01.2005	Date of completion of this report 29.06.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Telephone No. +49 89 2399- 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/007574

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-12 as originally filed

Claims, Numbers

1-10 as originally filed

Drawings, Sheets

1/1 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-10
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents cited in the International Search Report (ISR), **especially** to the passages mentioned therein:

- D1: US-A-5 057 365 (FINKELSTEIN HARVEY ET AL) 15 October 1991 (1991-10-15)
- D2: WO 99/37554 A (TRI SEAL HOLDINGS INC) 29 July 1999 (1999-07-29)
- D3: WO 02/096645 A (BERICAP ; LAFIN BENOIT (FR); CELERIER YANNICK (FR)) 5 December 2002 (2002-12-05)
- D4: EP-A-1 219 546 (SONOCO DEV INC) 3 July 2002 (2002-07-03)
- D5: US-B-6 511 7261 (KINIGAKIS PANAGIOTIS) 28 January 2003 (2003-01-28)

1 Novelty (Art. 33(2) PCT)

1.1 Documents D1-D3 and D5 are all related to cap liners. D5 relates to a laminate for flexible pouches. D1-D5 are considered relevant for the novelty of the present claims. In particular:

1.2 D1 discloses a cap liner for hermetically sealing a container, said cap liner comprising: a backing layer 22 comprising a coextruded material consisting of foamed thermoplastic material sandwiched between two layers of solid thermoplastic material; a sealing layer 24 comprising metallic foil having a coated surface and an uncoated surface, said coated surface of the metallic foil having a heat sealable adhesive coating thereon; and a bond layer 26 positioned between one of the layers of solid thermoplastic material of the backing layer and the uncoated surface of the metallic foil of the sealing layer (claim 1, Fig. 2). The backing layer comprises a foamed low density polyethylene sandwiched between two layers of solid polyethylene, and said metallic foil is aluminum foil (claim 2). A tie layer may be provided on one of the surfaces of the sealing layer 24 to provide protection against the contents of the container 30 attacking or reacting with the primary material of the sealing layer 24. For example, a tie layer comprising a thermoplastic film or coating could be applied to the surface of an aluminum foil sealing layer 24 to prevent the contents of the container 30 from attacking or reacting with the aluminum foil.

Mirrored to the present application, the backing layer 22 is the "wadding layer", the sealing layer 24 is the "barrier layer" and the tie layer applied to the aluminium layer is the "inert seal layer".

The bond layer corresponds to the "adhesive layer". The backing layer is a coextruded material and the use of slip additives is common practice.

According to D1: col. 4, l. 60-66 if the sealing layer 24 is to be secured to the container by heat sealing, the surface of layer 24 is coated with a film of a heat sealable material such as low density polyethylene.

D1 is considered to detract from novelty of present claims 1-3, 5, 8 and 10.

1.3 D2 is considered relevant for the novelty of claims 1-4, 8-10.

D2 discloses a multi-layer liner for use with a container closure, comprising: a polymer gas barrier layer 110; a first tie layer 112 on an upper surface of said gas barrier layer 110; a second tie layer 114 on a lower surface of said gas barrier layer 110; a first polyolefinic resin layer 116 on an upper surface of said first tie layer; and a second polyolefinic resin layer 118 on a lower surface of said second tie layer (claim 1; Fig 2). Outer skin layers (120,122) may be present, as well as a lubricant ("slip additive") such as erucamide into the bottom layers (118 or 122) (p. 18, l. 17-p. 19, l. 2; claims 6, 7). In the multi-layer liner, the gas barrier layer, tie layers, and polyolefinic resin layers may be formed simultaneously by a coextrusion process (claims 19, 20).

1.4 D3 discloses a multi-layer seal 1 for container neck or screw cap, having intermediate layers (3,4) of polyethylene between middle gas barrier 2 and outer resin layers (7,8). The middle layer 2 of a plastic material acts as a gas barrier between two outer layers (7, 8) of a polyolefin resin, and intermediate layers (3, 4) of polyethylene between the middle and outer layers. The intermediate layers are attached to the middle layer by adhesive coatings (5, 6) (Fig 1). The seal can be produced by coextrusion (page 10, l. 11-12). The intermediate layers are designed to protect the middle layer from moisture and to prevent degradation of the gas-tight barrier.

D3 is considered relevant for the novelty of claims 1, 2, 4, 8 and 10.

1.5 D4 relates to a two-ply laminate for flexible pouch, having inner web 40 with barrier layer that retards migration of slip additives from sealing layer to metallized layer 42.

The laminate has an inner web 40 which comprises a barrier layer 44 that retards the migration of the slip additives from a sealing layer 46 to a metallized layer 42. The sealing layer provides sealing and low coefficient of friction to allow the laminate to slide over the manufacturing machine. The metallized layer 42 is located between an outer web made from e.g. PET (paragraph 17) and layer 44 made e.g. from polyethylene (col. 3, l. 51-54). In terms of the present claim 1, the metallized layer is the "barrier layer". The material for the sealing layer 46 is e.g. a polyethylene (paragraph 14). Slip additives such as erucamide derivatives may be present in the sealing layer 46.

D3 is considered relevant for the novelty of claims 1, 2, 6, 8 and 9.

- 1.6 **D5** relates to a liner comprising a permanent liner 30 and a removable (releasable) liner 32, the releasable liner comprising an aluminium foil 80 and a sealant polyethylene layer 86 (Fig 4). The aluminium foil has a thickness from 0.6 to 0.8 mils (15.2 to 20.3 μm).

D5 is considered relevant for the novelty of claims 1, 2, 5, 7, 8 and 10.

2 Inventive step (Art.33(3) PCT)

If after appropriate amendments the Applicant overcomes the novelty objection, an inventive step can only be acknowledged if the subject-matter of the amended claims provides an unexpected solution to the problem of "providing a multi-layer liner which acts as a barrier to prevent the ingress of contaminants into the container and the egress from the closure and which does not delaminate" (p. 3, l. 3-14 of the present description) over the teaching of documents D1-D3 and D5 related to the same problem as the present application and solving it in the same way.

Re Item VII

Certain defects in the international application

- 3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.

4 General

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2004/007574

- 4.1 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

- 4.2 Moreover, the applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.
- 4.3 Any information the applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as filed, should be confined to the letter of reply and not be incorporated into the application (Article 34(2)(b) PCT).
- 4.4 Care should be taken to avoid introducing subject-matter which extends beyond the content of the application as filed, Article 19(2)/Article 34(2)(b) PCT.